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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/872,461	06/01/2001	Kang Soo Seo	2080-3-24	3010

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JONATHAN Y. KANG, ESQ.  
LEE & HONG P.C.  
11th Floor  
221 N. Figueroa Street  
Los Angeles, CA 90012-2801

EXAMINER

SHIBRU, HELEN

ART UNIT	PAPER NUMBER
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2616

DATE MAILED: 09/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/872,461

Applicant(s)

SEO ET AL.

Examiner

SHIBRU HELEN

Art Unit

2616

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 01 June 2001.  
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is, closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-8 and 10-19 is/are rejected.  
7) ☐ Claim(s) 9 and 20 is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☒ The drawing(s) filed on 01/10/01 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) All b) ☐ Some \* c) ☒ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_.

*Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-2, 4-5, 11-12, and 14-15 are rejected under 35 U.S.C. 102(b) as being anticipated by Lane (US Pat. No. 5,377,051).

Regarding claim 1, Lane discloses an apparatus of recording a digital broadcast signal comprising:

a demodulator (see tuner/demodulator (204) in fig. 9A or 304 in fig. 10(a)) demodulating a received digital broadcast signal into data streams of individual channels (see col. 33 lines 1-10);

a data processor and extracting data stream of a channel chosen among the individual channels and converting the extracted data stream <sup>to</sup> transport stream (see video/audio transport data packets going to (344) and (344), it is inherent that the demodulated signal is converted to transport stream to process the data either for trick play or for normal play. See col. 49 lines 22-29);

a stream analyzer (see fig. 10(a) data filter) analyzing data of the transport stream, and extracting related information (see col. 50 lines 1-8 and 13-18); and

a writing means writing information from said stream analyzer and the transport stream from said data processor to a recording medium in a format suitable to the extracted and created information (see col. 50 lines 3-18).

Regarding claim 2, Lane discloses stream analyzer analyzes each header of transport packets forming the transport stream to obtain said data stream- and/or recording-related information (see col. 50 lines 1-8).

Regarding claim 4, Lane discloses writing means writes the transport stream to the recording medium such that all high-density stream object units begin from starting data of a GOP based on the data stream- and/or recording-related Information (see col. 24 lines 12-18, col. 50 lines 1-13, the HDTV system uses I, P, and B frames and the data filter identifies the priority level and the signal is recorded accordingly. It is inherent that the stream object unit begin from I frame).

Regarding claim 5, Lane discloses data stream- and/or recording-related information is for trick play (see fig. 10(a) trick play data (342) and col. 49 lines 22-29).

Method claim 11 is rejected for the same reason as discussed in the apparatus claim 1 above.

Method claim 12 is rejected for the same reason as discussed in the apparatus claim 2 above.

Method claims 14-15 are rejected as discussed in the corresponding apparatus claims 4-5 above respectively.

3. Claims 1, 3, 8, 10-11, and 13 are rejected under 35 U.S.C. 102(e) as being anticipated by Inoue (US Pat. No. 6,467,093).

Regarding claim 1, Inoue discloses an apparatus of recording a digital television broadcast signal, comprising:

a demodulator (see tuner (11) and front end unit (12) in fig. 1) demodulating a received digital broadcast signal into data streams of individual channels (see col. 6 line 66-col. 7 line 4);

a data processor (see descrambler (131) and CPU (30) in fig. 1) extracting data stream of a channel chosen among the individual channels and converting the extracted data stream to transport stream (see col. 7 lines 5-9 and lines 22-28);

a stream analyzer (see demultiplexer (132) in fig. 1) analyzing data of the transport stream, and extracting and creating data stream- and/or recording-related information (see col. 11 line 9-14); and

a writing means writing information from said stream analyzer (see col. 11 lines 16-21) and the transport stream from said data processor to a recording medium in a format suitable to the extracted and created information (see col. 9 lines 22-30, col. 10 lines 6-11 and 50-59).

Regarding claim 3, Inoue discloses stream analyzer reconstructs the transport stream into MPEG-formatted stream and analyzes MPEG header of the MPEG-formatted stream to obtain said data stream- and/or recording-related information (see fig. 1 MPEG decoder (141) and col. 8 lines 51-57).

Regarding claim 8, Inoue discloses an interfacing unit (see fig. 1 digital interfacing (20)) transmitting the transport stream outputted from said data processor to an external apparatus (see col. 7 lines 49-53).

Regarding claim 10, Inoue discloses a converter (D/A converter (144) in fig. 1) decodes the transport stream outputted from said data processor to analog video and audio signal, and outputs the analog video and audio signal to an external apparatus (see col. 12 lines 1-14).

Claim 11 is rejected for the same reason as discussed in the apparatus claim 1 above.

Claim 13 is rejected for the same reason as discussed in the apparatus claim 3 above.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 6, 16, 18, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Inoue in view of Yamagishi (US Pat. No. 5, 535, 008).

Claim 6 differ from Inoue in that the claim further requires writing means writes the information for trick play in an only first pack of each high-density stream object-unit. Although Inoue fails to teach writing means writes the information for trick play in an only first pack of each high-density stream object-unit the transport packet, Inoue discloses the transport packet is formed of an adaptation field for inputting additional information into a specific individual packets (see fig. 2 and col. 7 lines 59-67).

In the same field of endeavor Yamagishi discloses a video data stream object unit ((GOPs) from  $M^{\text{th}}$  to  $(M+5)^{\text{th}}$ , and see fig. 7A) for a fixed transfer rate and variable transfer rate (trick play) (see col. 17 lines 63-67). Yamagishi further discloses the I frame is recorded in the beginning (see col. 18 lines 6-9 and fig. 7B). Yamagishi further discloses the data stream for traverse or reverse is recorded only in the I frame (see fig. 7D-E and col. 9-16 and 28-33). Therefore in light of the teaching in Yamagishi it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Inoue by writing the information for

trick play in the first pack in order to access the data with reference to the independent frame access data.

Claim 16 is rejected for the same reason as discussed in the apparatus claim 6 above.

Regarding claims 18 and 19, these claims differ from Inoue in that the claims further requires information for trick play includes location information of Infra-coded and predictive pictures and the number of GOPs and location information of each GOP. Although Inoue fails to teach requires information for trick play includes location information of Infra-coded and predictive pictures and the number of GOPs and location information of each GOP, Inoue does teach the header stores the packet ID or PID (see col. 8 lines 10-16). Inoue further discloses the MPEG compressed video and audio signals are extracted based on the PID (see col. 8 lines 28-35).

In the same field of endeavor Yamagishi discloses the information for trick play includes location information (see fig. 7E X & Y and col. 18 lines 22-27). Yamagishi further discloses a number of GOPs of video data (see fig. 7A M<sup>th</sup> to (m+5)<sup>th</sup> GOP), each of which are constructed by frames, including I, and P (see fig. 7B and col. 18 lines 34-43).

Therefore in light of the teaching in Yamagishi it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Inoue by including the location information of each GOP (which include I and P frames) in order to indicate the absolute address of the sectors.

6. Claims 7 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Inoue in view of Yamagishi, and further in view of Mercier (US Pat. 6, 865, 747).

Regarding claim 7, claim 7 differ from Inoue and Yamagishi in that the claim further requires writing means writes the information for trick play before the transport stream to be recorded in the first pack. Although Inoue does not disclose writing means writes the information for trick play before the transport stream to be recorded in the first pack, Inoue discloses the header of each transport packet includes the information about adaptation fields (see col. 8 lines 10-16).

In the same field of endeavor Yamagishi discloses the I frame is recorded in the beginning (see col. 18 lines 6-9 and fig. 7B).

In the same field of endeavor Mercier discloses the trick mode information is recorded in the packet (see fig. 11 steps 1130, 1132, 1134 then 1140, and col.9 lines 21-34 and line 65-col. 10 line 8). Mercier further discloses the adaptation fields in the transport packet- 188 bytes (see col. 6 lines 48-55 and fig. 5).

Therefore in light of the teaching in Yamagishi and Mercier it would have been obvious to modify Inoue by writing trick play information before the transport stream to be recorded in order to generate trick play before it is decoded.

Claim 17 is rejected for the same reason as discussed in the apparatus claim 7 above.

***Allowable Subject Matter***

7. Claims 9 and 20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:



Regarding claims 9 and 20, the prior arts fail to teach or suggest the apparatus and method claims 1 and 11 including writing means calculates time length of each high-density stream object unit based on presentation time stamp, which is one of the

extracted information from said stream analyzer, and writes the calculated time length as navigation data.

### *Conclusion*

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Inoue (US Pat. No. 5, 832, 085) discloses a recording and play back mechanism for digital data to accommodate advanced trick play format.

Lenihan (US Pat. No. 6, 169, 843) discloses a transport stream generated in accordance with MPEG-2 standard.

Reitmeir (US Pat. No. 6,118,486) discloses a multiple format video signal processing for a digital television.

Kato (US Pat. No. 6, 618, 549) discloses a packetizing circuit which converts the transport packets received from the analyzing circuit in to isochronous packets of the IEEE1394.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to SHIBRU, HELEN whose telephone number is (571) 272-7329. The examiner can normally be reached on M-F, 8:30AM-5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, NGOC Y. VU can be reached on 571 272 7320. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Helen Shibru  
Sept. 02, 2005



NGOC-YEN VU  
PRIMARY EXAMINER